Extended Contact Effects as a Function of Closeness of Relationship with Ingroup Contacts

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Abstract

Using survey data from Protestants and Catholics in Northern Ireland ($N = 428$), the authors examined the effects of extended contact via different types of ingroup contacts (neighbours, work colleagues, friends, and family members) and tested whether closeness to ingroup contacts moderated the effects of extended contact on outgroup trust. Results demonstrated that extended contact effects varied as a function of the relationship to ingroup contacts, and that extended contact interacted with closeness ratings in predicting outgroup trust. Consistent with hypotheses, extended contacts via more intimate ingroup relationships (i.e., friends and family) were overall more strongly related to outgroup trust than extended contacts via less intimate ingroup relations (i.e., neighbours and work colleagues). Moreover, within each level of intimacy extended contact was related to outgroup trust only at high, and not at low, levels of rated closeness to ingroup contacts. The theoretical contributions, limitations and practical implications of these findings are discussed.

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Since Wright, Aron, McLaughlin-Volpe and Ropp's (1997) introduction of the extended contact hypothesis our understanding of the effects of experiencing intergroup contact vicariously via other ingroup members has grown considerably. We now know much about the consequences of extended contact (e.g., Christ, Hewstone, Tausch, Voci, Wagner, Cairns, & Hughes, in press; Paolini, Hewstone, Cairns, & Voci, 2004; Wright et al., 1997), the processes that mediate extended contact effects (Cameron, Rutland, Brown, Douch, 2006; De Tezanos-Pinto, Bratt, & Brown, 2010; Turner, Hewstone, Voci, & Vonofakou, 2008), and about the conditions that moderate its effects (Christ et al., in press; Paolini, Hewstone, & Cairns, 2007). One question that has, however, not yet been explored is whether the nature of the relationship to the ingroup members through which extended contact is experienced matters. We address this issue in the present paper.

In fact, the vast majority of extended contact research has focused on the effects of ingroup *friends* having outgroup contact (e.g., Christ et al., in press; Paolini et al. 2004, 2007; Turner et al., 2007, 2008; but see Cameron & Rutland, 2006; Cameron et al., 2006; and Liebkind & McAlister, 1999, for exceptions). Many more types of extended contact that involve ingroup members at varying degrees of centrality in individuals' social networks are, however, conceivable. The present research aims to fill this gap in the literature by, first, comparing the effects of a variety of extended contacts that range from relatively low (neighbours, work colleagues) to high (friends and family) levels of intimacy with the ingroup members who have contact with outgroup members and, second, by examining the moderating role of rated closeness to ingroup contacts in determining the outcomes of a variety of forms of extended

contact. Before outlining the theoretical rationale and hypotheses of the present research, we briefly review the relevant literature on closeness in social relationships.

Closeness in Social Relationships

Closeness in social relationships has often been understood as what distinguishes relationship categories (e.g., close friend vs. parent vs. stranger), but can also be defined in terms of specific cognitive, emotional, and behavioural elements, such as interdependence (both in terms of mutual influence and outcomes), interconnectedness of emotion and behaviour, and intimacy (the disclosure of important self-relevant feelings and information; see Berscheid, Snyder, & Omoto, 1989; Clark & Reis, 1988; Kelley et al., 1983). In an attempt to integrate different perspectives, Aron, Aron, Tudor, and Nelson (1991) conceptualized interpersonal closeness as 'inclusion of the other in the self' (see also Aron & Aron, 1986; Aron et al., 2004). In support of their idea, they presented evidence from a series of experiments that demonstrated that close others (e.g., friends, parents, spouses) as opposed to more distant others (e.g., one's mother's friend, TV personalities, strangers) function cognitively like the self; they receive similar benefits as the self in money allocation tasks regardless of whether they will know about the self's decision; they are processed more like the self than are non-close others; and their traits are confused with traits associated with the self.

To assess closeness as inclusion of the other in the self, Aron, Aron, and Smollan (1992) introduced the Inclusion of the Other in the Self (IOS) measure, which assesses the closeness of the relationship between the self and the other person using a pictorial scale. Aron et al. (1992) demonstrated that the IOS is a broad index of relationship closeness which is strongly related to a number of other relationship closeness measures (e.g., the Relationship Closeness Inventory; Berscheid et al., 1989). They also demonstrated that the IOS measure has considerable predictive

validity, predicting relationship commitment, marital satisfaction and relationship maintenance, intimacy and attraction between strangers following closeness-generating tasks in the laboratory, and response-time based cognitive indicators of closeness.

The Present Research

Inclusion of the other in the self also plays a central role in the extended contact hypothesis (Wright et al., 1997). Based on results reported by Smith and Henry (1996) showing that ingroup (but not outgroup) members are spontaneously included in the self, and Sedikides, Olsen, and Reis' (1993) finding that observers treat partners in an interaction as a single cognitive unit, Wright and colleagues suggested the following logic: In an observed intergroup interaction, where the ingroup member is part of the self and the outgroup member is part of the ingroup member's self, the outgroup member becomes part of the self. Presuming that the outgroup member's group membership is part of what is included in the self, then the outgroup itself becomes part of the self. By this process, outgroup members receive, at least to some extent, the benefits that are associated with inclusion in the self, such as positive affect, greater empathy, and shared resources. Consistent with the idea that such a process plays a role in extended contact effects, Turner et al. (2008) demonstrated that inclusion of the outgroup in the self partly mediates the effects of extended contact on attitudes.

In the present article we sought to qualify this general process further. While it is true that all ingroup members are at least to some extent included in the self (Smith & Henry, 1996) and, under certain circumstances, interchangeable with each other and the self (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), it is also plausible to assume that the specific relationship to the ingroup member who experiences contact matters. The extended contact hypothesis is premised on the idea that the fellow ingroup member who has contact with an outgroup member is

included in the self, and that this is one key link in the chain of preconditions by which extended contact exerts its effects on outgroup attitudes. It follows logically, then, that the extent to which a specific ingroup member who has outgroup contact is included in the self (i.e., the degree of closeness between the observer and the fellow ingroup member who engages in contact) should determine the degree to which extended contact is effective in changing the observer's reactions to the outgroup. While this process is primarily cognitive, other characteristics of close relationships, such as mutual influence, interconnectedness of emotion, and high levels of self-disclosure (Clark & Reis, 1988), may further contribute to the greater effectiveness of extended contact via closer as opposed to more distant ingroup members.

Based on this reasoning, we predict (1) that extended contact will be more effective when experienced via close (friends and family) compared to typically less close (neighbours, work colleagues) ingroup contacts, and (2) that the rated closeness to ingroup contacts who have outgroup contact would moderate extended contact effects. We tested these hypotheses in the context of cross-community contact in Northern Ireland. This region has a long history of intergroup conflict, which is, in essence, a struggle between those who want Northern Ireland to remain part of the United Kingdom (Unionists/ Loyalists, generally supported by Protestants) and those who want Northern Ireland to be reunited with the Republic of Ireland (Republicans/Nationalists, generally supported by Catholics; see Cairns & Darby, 1998). Although recent developments and political advances indicate an end to this violent conflict, sectarian division is still psychologically real and Northern Ireland remains deeply divided along religious lines (see Niens, Cairns & Hewstone, 2003). Encouraging intergroup contact has thus been an important strategy adopted by policy makers to improve community relations (see Hughes, 2001). Research has also examined the effects of extended contact in this context

(Christ et al., in press; Paolini et al., 2004, 2007; Tam, Hewstone, Kenworthy & Cairns, 2009), which seems a particularly promising strategy given that many citizens of Northern Ireland still experience high levels of segregation and lack opportunities for direct contact (Christ et al., in press; Poole & Doherty, 1996).

We tested our hypotheses using survey data that assessed a range of extended contact experiences (via ingroup neighbours, work colleagues, friends, and family members) among members of the general population of Belfast. Closeness to ingroup contacts was operationalized as inclusion of the other in the self (Aron et al., 1991), and measured using Aron et al.'s (1992) IOS measure. We assessed extended contact effects in relation to an important potential outcome: outgroup trust. Trust is a key concept for peace building as, once established, it facilitates the achievement of mutually beneficial outcomes during intergroup negotiations (see Kramer & Carnevale, 2001). Outgroup trust is both conceptually and empirically distinct from outgroup attitude (Kenworthy et al., 2009). It entails a state of vulnerability and, by putting the self or the ingroup directly at risk (Kramer & Carnevale, 2001), can be seen as a more demanding criterion of intergroup relations. There is substantial evidence that trust is difficult to create and to sustain (e.g. Tausch, Kenworthy, & Hewstone, 2007), in particular in settings such as Northern Ireland (Hewstone et al., 2008). Positive intergroup experiences are, however, likely to provide the diagnostic data required to build trust (Kramer & Carnevale, 2001) and previous research has demonstrated that high quality direct contact is an important predictor of outgroup trust (Tausch, Tam, Hewstone, Kenworthy, & Cairns, 2007). We suggest that extended contact can similarly provide relevant diagnostic information necessary to develop trust. Individuals who have extended contact are provided with examples of successful intergroup interactions, highlighting that intergroup interactions can take place smoothly and safely and can even have

positive consequences for those involved. Examining the relation between extended contact and trust therefore presents an important continuation and extension of the existing extended contact literature, which has primarily focused on outgroup attitudes as a criterion variable. Furthermore, outgroup distrust is based on a generic outgroup schema, such that outgroups are automatically perceived as untrustworthy (Insko & Schopler, 1997). Thus our focus on the role of extended contact in building outgroup trust also fits in with the theme of the special issue on reducing intergroup bias.

Only one study to date has, however, explored the relation between extended contact and outgroup trust. Tam et al. (2009, Study 2), in a cross-sectional survey of Catholic and Protestant students in Northern Ireland, showed that extended contact, like direct contact, impacts both on outgroup attitudes and outgroup trust, which, in turn, predict action tendencies towards the outgroup. This study did not, however, examine the role of different types of extended contact nor did it test for the moderating role of closeness to the ingroup contact. Thus, the current research presents an extension to this work.

In line with this previous work, we expected extended contact to be positively associated with outgroup trust. We first hypothesized that this relation would be qualified by the nature of the relationship between the ingroup contact through which extended contact is experienced, such that extended contact would be more strongly related to trust when experienced via closer (i.e., friends and family) compared to typically more distant (neighbours, work colleagues) ingroup contacts. Our second hypothesis predicted that the rated closeness to ingroup contacts would moderate extended contact effects, such that, within each level of intimacy, extended contact would be more strongly related to outgroup trust at high compared to low levels of rated closeness to ingroup contacts. As extended contact is often positively related to direct contact

(e.g., Paolini et al., 2004; Turner et al., 2008), we tested these predictions while controlling for direct contact with outgroup members.

Method

Procedure and Respondents

The data were collected as part of a larger survey on cross-community perceptions among the adult population in Northern Ireland. Respondents were selected at random by a professional survey organization from areas of Belfast chosen to represent a spread of contact experiences. All interviews were conducted face-to-face, and cards with questions and response options were shown to supplement verbal statements. The interviews were conducted between May and August 2007. A total of 811 adults participated in the survey. However, there was a large amount of missing data on indices of extended contact via work colleagues (N = 330) and neighbours (N = 164). This was primarily due to the questions being rated as 'not applicable' by respondents who were not working, or to respondents not knowing whether work colleagues or neighbours had outgroup contacts. Because the purpose of the present research was to examine the relative importance of different forms of extended contact, and because these data were not missing at random, which precludes us from replacing them, we deleted all respondents with missing values on extended contact variables from our analyses. The final sample used for our analyses thus comprised 428 adults (mean age = 45.81 years, SD = 15.76; N = 196 Catholics, 80 male, 116 female; N = 228 Protestants, 94 male, 134 female).

Measures

Among a number of questions on other aspects of intergroup relations in Northern Ireland, the survey included measures of direct contact with members of the other community, a variety of extended contacts (via neighbours, work colleagues, friends, and family members),

ratings of closeness of relationships to different types of ingroup contacts, as well as outgroup trust.

Direct Contact

To assess direct contact, we asked respondents to indicate how many of their close friends are from the other community (1 = *none*, 2 = *a few*, 3 = *about half*, 4 = *more than half*, 5 = *most,* 6 = *all*).

Extended Contact

Types of extended contact were assessed by four sets of items, each using the same response scale (1 = *none*, 2 = *a few*, 3 = *about half*, 4 = *more than half*, 5 = *most,* 6 = *all*). To assess *extended contact via ingroup neighbours*, respondents indicated how many of their ingroup neighbours (whom they do not consider close friends) (a) had work colleagues from the other community, (b) had close friends from the other community, and (c) were married to someone from the other community. The items were averaged to yield an overall index of extended contact via neighbours (Cronbach's $\alpha = .73$). *Extended contact via ingroup work colleagues* was measured by asking respondents how many of their ingroup work colleagues (whom they do not consider close friends) had (a) neighbours from the other community, (b) close friends from the other community, and (c) how many were married to someone from the other community (Cronbach's $\alpha = .75$). To assess *extended contact via close ingroup friends,* respondents indicated how many of their ingroup friends had (a) neighbours, (b) work colleagues and (c) close friends from the other community, and (d) how many were married to someone from the other community (Cronbach's $\alpha = .84$). Finally, to measure *extended contact via family members*, respondents indicated how many of their immediate family (your parents, children, siblings, or partner) had (a) neighbours from the other community, (b) work colleagues form the

other community, (c) close friends from the other community, and (d) what proportion were married to someone from the other community (Cronbach's $\alpha = .81$). Note that we did not measure whether neighbours had outgroup neighbours and work colleagues had outgroup work colleagues, because these extended contacts would likely also be direct contacts for respondents.

Closeness to Ingroup Contacts

Our measure of closeness of ingroup contacts was based on the Inclusion of Other in the Self (IOS) scale designed by Aron et al. (1992). This is a pictorial measure designed to assess the level to which another person is included in the self. It consists of a series of Venn diagrams, each of which is composed of two circles varying in their degree of overlap, and respondents are asked to select the diagram that best represents their relationships with another person. Respondents were instructed "For the next set of questions we would like to know how close you feel to your Catholic/Protestant (ingroup) neighbours, friends, colleagues and family. For each question we will show you five simple diagrams that represent different degrees of closeness between you and your Catholic/Protestant (ingroup) neighbours, friends, colleagues and family. The circle to the left in each diagram represents you; the circle to the right represents your Catholic/Protestant (ingroup) neighbours, friends, colleagues or family. Please look at these diagrams and point to the diagram that best describes how close you feel to them." Respondents were then asked to rate the extent to which they felt close to most of their ingroup work colleagues, neighbours, friends and family. The scales for this measure ranged from 1 (*no overlap*) to 5 (*complete overlap*).

Outgroup Trust

Outgroup trust was measured by three items which were developed specifically for the Northern Irish context (see Kenworthy et al., 2009; 'I can trust Catholics/Protestants in general

not to hurt people from my community', 'I can trust Catholics/Protestants in general not to attack my community', 'I can trust Catholics/Protestants in general not to deceive us'; Cronbach's α = .96) The response scale for these items ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Results

Preliminary Analyses and Overview

Means, standard deviations, and intercorrelations of all variables are shown in Table 1. Prior to our main analyses we tested whether the four types of ingroup contacts differed in terms of rated closeness. Paired samples *t*-tests revealed that, overall, respondents reported greater closeness to work colleagues ($M = 3.12$) than to neighbours ($M = 2.92$; $t(417) = 4.70$, $p < .001$; $d = .20$), and greater closeness to friends ($M = 4.11$) and family ($M = 4.73$), compared to neighbours ($t(421) = -25.39$, $p < .001$, $d = 1.26$, and $t(421) = -34.38$, $p < .001$, $d = 2.12$, respectively) or work colleagues ($t(418) = -23.77$, $p < .001$, $d = 1.10$, and $t(418) = -33.24$, $p < .001$, $d = 2.00$, respectively). Moreover, family relationships were overall rated to be closer than friendships ($t(423) = -15.79$, $p < .001$, $d = .82$).

We also examined whether there were any significant differences in means between the two communities. There were no significant differences between the two communities in terms of direct contact or outgroup trust (ps > .50), but Catholics reported higher levels of extended contact via neighbours ($M = 2.80$, $SD = 1.05$) compared to Protestants ($M = 2.44$, $SD = 1.00$; $t(422) = -3.55$, $p < .001$, $d = .35$), higher levels of extended contact via work colleagues ($M = 2.58$, $SD = .88$ and $M = 2.40$, $SD = .91$, respectively; $t(422) = -2.11$, $p = .035$, $d = .21$), higher levels of extended contact via friends ($M = 2.87$, $SD = 1.02$ and $M = 2.55$, $SD = .96$, respectively; $t(422) = -3.37$, $p = .001$, $d = .33$), and higher levels of extended contact via family members ($M = 2.92$, $SD = 1.13$ and $M = 2.57$, $SD = 1.00$, respectively; $t(422) = -3.29$, $p = .001$, $d = .32$).

Catholics and Protestants did not differ in terms of closeness to work colleagues or family (*p*s > .11), but, compared to Protestants, Catholics reported greater closeness to ingroup neighbours (*M* = 3.07, *SD* = 1.05 and *M* = 2.79, *SD* = 1.21, respectively; $t(420) = -2.73$, $p = .007$, $d = .27$) and friends (*M* = 4.30, *SD* = .77 and *M* = 3.96, *SD* = .89, respectively; $t(422) = -4.16$, $p < .001$, $d = .41$). Because of these differences between the two communities, community background (coded as -1 = Protestant, +1 = Catholic) was controlled for in all subsequent analyses. We also tested for interactions between community and the predictor variables in our analyses. The only significant interaction to emerge was the interaction between community background and extended contact via work colleagues (*B* = .28, *SE* = .10, *p* = .005). Extended contact via work colleagues was unrelated to outgroup trust for Protestants ($\beta = .09$, $p = .221$), but positively related to outgroup trust for Catholics ($\beta = .24$, $p = .007$).

Below we report two sets of analyses. First, we carried out an initial test of the idea that extended contact via different types of ingroup contacts varying in intimacy has different effects on outgroup trust. We examined the extent to which each type of extended contact (via neighbours, work colleagues, friends, and family) predicted our dependent variable, over and above direct contact, community background, and each of the other types of extended contact. Second, to provide a more direct test of our closeness hypothesis, we examined whether rated closeness to the different types of ingroup contacts moderated the extent to which extended contact via these ingroup relations predicted outgroup trust.[1]

Extended Contact via Different Types of Ingroup Contacts as Predictors of Outgroup Trust

To examine the relations between each type of extended contact and our dependent variable (outgroup trust), over and above for community background, direct contact (number of outgroup friends) and the other types of extended contact, we performed a hierarchical

regression. In a first step we regressed outgroup trust on community background and direct contact. In a second step we entered the four types of extended contact to the model. This allowed us to assess the amount of additional variance in outgroup trust explained by extended forms of contact. We performed these analyses first using overall measures of extended contact via different types of ingroup contacts, and second using two-item indices of extended contact (that consisted only of the items asking about friends and cross-group marriages; neighbours: r = 33, p < .001; work colleagues: r = 32, p < .001; friends: r = 40, p < .001; family members: r = 33, p < .001). This was done to improve the comparability of the effects via different types of ingroup relationships, because we did not measure whether work colleagues had outgroup work colleagues or whether neighbours had outgroup neighbours as these types of extended contact would likely be direct contacts for respondents.

A significant amount of variance in outgroup trust was explained in the first step of our regression analysis; R^2 = .10, $F(2, 418) = 22.66$, $p < .001$). While community background did not significantly predict outgroup trust (β = -.03, p =.476), having direct outgroup friends was positively related to trust (β = .31, p <.001). Adding the extended contact variables in the second step led to a significant improvement in the regression model; ΔR^2 = .19, $F(4, 414) = 28.05$, $p <$ .001, for the model using overall measures of extended contact and ΔR^2 = .17, $F(4, 389) = 28.05$, $p < .001$, for the model using 2-item measures of extended contact. Thus, extended contact explained roughly 17-19% of additional variance in outgroup trust, over and above the variance explained by direct contact, constituting a small effect (f^2 = .27 and .22, respectively, Cohen, 1993). While neither extended contact via neighbours (β = .03, p =.662, for overall measure of extended contact, and β = .09, p =.150, for the 2-item measure) nor extended contact via work colleagues (β = .07, p =.264 and β = .09, p =.137, respectively) had unique effects on outgroup

trust, both extended contact via friends (β = .25, p = .003 and β = .17, p = .034, respectively) and extended contact via family (β = .20, p = .002 and β = .23, p <.001, respectively) significantly predicted higher levels of outgroup trust. Table 2 summarizes these results.

Overall, these findings are consistent with our hypothesis that the type of relationship to ingroup members via whom extended contact is experienced affects the outcomes of extended contact. In line with our expectations, extended contact via others that are typically less central in individuals' social networks (neighbours and work colleagues) was overall not predictive of outgroup trust. However, extended contact via ingroup members who are typically more central and closer to the self (friends and family) significantly predicted outgroup trust, over and above the control variables. These analyses do not, however, take into account that closeness to different types of ingroup contacts may vary substantially between individuals (e.g., one can be extremely close to neighbours or work colleagues and have more distant relationships with one's family). The analyses reported in the next section thus examined the interactions between type of extended contact and rated closeness to ingroup contacts as an additional test of our hypothesis.

Moderation of Extended Contact Effects by Closeness to Ingroup Contact

We conducted a series of hierarchical moderated regression analyses (Aiken & West, 1991) to test our hypothesis that closeness to an ingroup contact would moderate the degree to which extended contact via this type of ingroup contact predicts outgroup trust. In the first step, we entered the centered extended contact variable, the centered closeness variable, as well as community background (effects-coded), direct contact, and the other types of extended contact (also centered) as control variables. We entered the multiplicative (interaction) term in a second step and evaluated whether a significant interaction was present by examining both whether the increment in the squared multiple correlation and the beta-weight of the interaction were

significantly greater than zero. We then calculated and plotted the simple slopes of the regression for low (one *SD* below the mean) and high (one *SD* above the mean) levels of closeness. The results of these analyses are summarized in Table 3 and interactions are plotted in Figures 1-4.

Extended Contact via Neighbours

Neither extended contact via neighbours ($\beta = .04$, $p = .531$) nor closeness to neighbours ($\beta = .03$, $p = .433$) significantly predicted trust in the first step of the analysis. Including the interaction term between extended contact via neighbours and closeness to neighbours in the second step resulted in an improvement of the regression model; $\Delta R^2 = .02$, $F(1, 410) = 12.50$, $p < .001$, $f^2 = .03$. The interaction term was significant ($B = .13$, $SE = .04$, $p < .001$). Simple slopes analyses revealed that, as expected, at high levels of closeness to neighbours, extended contact via neighbours was significantly positively related to outgroup trust ($\beta = .19$, $p = .009$). For low levels of closeness there was no significant relation between extended contact and trust ($\beta = -.08$, $p = .230$). Figure 1 shows the interaction.

As Figure 1 suggests that there might be differences between those high vs. low in levels of closeness at low levels of extended contact, we also examined the reverse interaction. That is, we examined the effects of closeness as a function of extended contact. This analysis revealed that closeness to neighbours was negatively related to trust at low levels of extended contact ($\beta = -.21$, $p = .045$) and positively related to trust at high levels of extended contact ($\beta = .15$, $p = .005$).

Extended Contact via Work Colleagues

In the first step, neither extended contact via work colleagues ($\beta = .06$, $p = .318$) nor closeness to work colleagues ($\beta = .04$, $p = .323$) significantly predicted trust. Including the interaction term between extended contact via work colleagues and closeness to work colleagues

in the second step resulted in an improvement of the regression model; $\Delta R^2 = .01$, $F(1, 407) = 6.88$, $p = .009$, $f^2 = .02$. The interaction term was significant ($B = .14$, $SE = .05$, $p = .009$). Simple slopes analyses revealed that, consistent with our hypothesis, at high levels of closeness to work colleagues, extended contact via work colleagues was significantly positively related to outgroup trust ($\beta = .16$, $p = .027$). There was no significant relation between extended contact and trust at low levels of closeness to work colleagues ($\beta = -.07$, $p = .362$). Figure 2 depicts the interaction.

Furthermore, examining the reverse interaction revealed that closeness to work colleagues was unrelated to trust at low levels of extended contact ($\beta = -.06$, $p = .296$) and positively related to trust at high levels of extended contact ($\beta = .17$, $p = .009$).

Extended Contact via Friends

In the first step, extended contact via friends ($\beta = .25$, $p = .003$) but not closeness to friends ($\beta = -.02$, $p = .608$) significantly predicted trust. Including the interaction term ($B = .15$, $SE = .06$, $p = .007$) resulted in an improvement of the regression model; $\Delta R^2 = .01$, $F(1, 412) = 7.28$, $p = .007$, $f^2 = .02$. Simple slopes analyses indicated that, at high levels of closeness to friends, extended contact via friends was significantly positively related to outgroup trust ($\beta = .38$, $p < .001$). There was no significant relation between extended contact and trust at low levels of closeness to friends ($\beta = .13$, $p = .166$). These findings are consistent with our predictions. Figure 3 depicts the interaction.

When examining the reverse interaction, we found that closeness to friends was negatively related to trust at low levels of extended contact ($\beta = -.13$, $p = .024$), but non-significantly related with trust at high levels of extended contact ($\beta = .12$, $p = .081$).

Extended Contact via Family Members

Extended contact via family (β = .20, p = .002) but not closeness to family (β = .06, p = .181) significantly predicted outgroup trust in the first step of the regression. Including the interaction term (B = .15, SE = .06, p = .014) resulted in an improvement of the regression model; ΔR^2 = .01, $F(1, 412) = 6.04$, p = .014, f^2 = .01. Again as expected, simple slopes analyses indicated that, at high levels of closeness, extended contact via family was significantly positively related to outgroup trust (β = .31, $p < .001$). There was no significant relation between extended contact and trust at low levels of closeness (β = .11, p = .126). Figure 4 shows the interaction.

Furthermore, examining the reverse interaction revealed that closeness to family members was unrelated to trust at low levels of extended contact (β = .05, p = .225) and positively related to trust at high levels of extended contact (β = .09, p = .046).[2]

Discussion

The purpose of the present research was to examine the role of closeness to ingroup members experiencing outgroup contact in extended contact effects. Unlike most studies on extended contact, which have focused primarily on outgroup attitudes as a criterion variable (see Tam et al., 2009, for an exception), the present research examined the effects of extended contact on outgroup trust, a demanding criterion of intergroup relations with particular relevance for intergroup reconciliation (see Kramer & Carnevale, 2001). In the following sections we will, first, evaluate our findings in relation to our hypothesis that extended contact would be more impactful when experienced via closer ingroup members; second, we will highlight the theoretical contributions of the present research; and, third, discuss limitations of the present work and suggest directions for future research. Finally, we will consider potential practical implication of our findings.

Extended Contact Effects as a Function of Closeness to Ingroup Contacts

The reported findings constitute first evidence that the nature of the relationship to an ingroup contact via whom extended contact is experienced affects the outcomes of extended contact. The findings support our hypothesis that extended contact via others that are typically less central in individuals' social networks is less effective than extended contact via ingroup contacts that are typically more central and closer to the self. Outgroup trust was significantly predicted only by extended contact via close friends and family, and not by extended contact via neighbours and work colleagues.

Furthermore, acknowledging that there may be substantial variability in terms of the closeness of these different relations (e.g., one can be extremely close to one's neighbours or work colleagues and have more distant relationships with one's family), we also assessed respondents' rated closeness to each of the four levels of relations with ingroup members who had outgroup contacts (assessed by means of the 'inclusion of other in the self' scale; Aron et al., 1992). Our second hypothesis proposed that, whatever the type of relationship with the other ingroup member who has outgroup contact, the rated closeness of the relationship with the ingroup member would moderate the impact of extended contact on outgroup trust. Consistent with this idea, our second set of analyses provided evidence that closeness to ingroup members through which extended contact is experienced qualifies extended contact effects. Across our four types of ingroup contacts, closeness interacted with extended contact, such that extended contact effects were in each case only significant at high levels of closeness. Importantly, this finding suggests that even extended contact through typically more distant relationships, such as neighbours or work colleagues, can be effective if these relations are sufficiently close.

Similarly, extended contact via typically more central relationships, such as family members, can be inconsequential if these relationships are distant.

It should be noted that there were a number of interesting differences between Catholic and Protestant respondents. First of all, Catholics reported higher levels of extended contact than did Protestants. This may be due to their minority status (see Cairns & Darby, 1998), although higher levels of contact were not evident in our measure of direct contact. Furthermore, Catholics also reported feeling closer to both ingroup neighbours and ingroup friends. This finding seems in line with work pointing to some interesting cultural differences between the two communities in Northern Ireland. Specifically, Cairns, Van Til, & Williamson (2003) suggested that, due to their historically lower social status and a sense of shared disadvantage, Catholics have developed a more collectivistic (as opposed to individualistic) approach with regard to a number of social issues, and have developed stronger social support networks within their community than have Protestants. In the light of these group differences, it also seems less surprising that for Catholics (but not Protestants), having extended contact via work colleagues (a typically less intimate form of relationship) was significantly associated with outgroup trust. Thus, an examination of the potential role of cultural factors in this context, and how they relate to extended contact effects, seems to be a particularly promising question for future research.

Theoretical Contributions

The present research makes a number of important contributions to the literature on extended contact. It is the first study to compare the effectiveness of extended contact via ingroup members from different relationship categories (work colleagues, neighbours, friends, and family) and to systematically examine the moderating role of closeness to ingroup members via whom contact is vicariously experienced. The present work makes a further novel theoretical

contribution by qualifying Wright et al.'s (1997) reasoning regarding the processes that are likely to be at work during extended contact. We argued that inclusion in the self of the ingroup member who has contact with an outgroup member is one link in the chain of preconditions by which extended contact exerts its effects on outgroup attitudes. Consequently, the extent to which a specific ingroup member who has outgroup contact is included in the self (i.e., the extent of closeness between the observer and the ingroup member who engages in contact) should determine the impact of extended contact effects. Future research may, however, also explore the role of other characteristics of close relationships that may have further contributed to the greater effectiveness of extended contact via close ingroup members. For example, the amount of self-disclosure about the nature of outgroup contacts may drive the extent to which outgroup contact has a vicarious effect on the other person.

An additional interesting avenue for future research would be to examine the valence of the relationship to an ingroup member who has outgroup contact. Aron et al. (1992) found that the IOS was positively correlated with positive emotions in relation to the other person but was unrelated to negative emotions. This finding suggests that this measure taps relationships that are generally more positive in nature, and that low scores on this measure indicate neutral relationships. However, by the principle that 'my enemy's friend is my enemy' (Heider, 1958) one may expect that extended contact via disliked others might in fact have negative consequences for outgroup attitudes.

Limitations and Directions for Future Research

Despite the promising results of the present study, it is important to consider a number of limitations of this research. First, it is important to bear in mind that the present research relied on cross-sectional data and thus does not allow causal inferences. Although less plausible than

the causal sequence assumed in the present research, it is possible that (lack of) outgroup trust may have affected reports of extended contact. Cross-sectional data analyses can also not exclude the possibility that findings are due to the influence of third variables. Thus we recommend that future research manipulates both extended contact (e.g., see Cameron & Rutland, 2006; Cameron et al., 2006; Liebkind & McAlister, 1999; Wright et al., 2006) and closeness (e.g., see Aron et al., 1992) experimentally to provide more solid causal evidence for the proposed interaction between extended contact and closeness.

Second, closeness was measured using only Aron et al.'s (1992) single-item IOS measure. Although this measure has good convergent and predictive validity, it may not capture interpersonal closeness fully. Future research may therefore also assess closeness to an ingroup contact with more detailed measures such as the Relationship Closeness Inventory (Berscheid et al., 1989) and explore the importance of the different sub-dimensions of closeness (i.e., frequency, diversity, strength; see Berscheid et al., 1989; Kelley et al., 1983) in determining the outcomes of extended contact. This may further aid theoretical development and increase our understanding of which aspects of closeness are crucial in determining extended contact effects.

Third, it should also be noted that, in order to keep the questionnaire at a manageable length, our measure of closeness only assessed closeness to a relationship category in general. The potential limitation of using such a measure became evident when we examined the reversed interactions between closeness and extended contact (i.e., the effects of closeness on outgroup trust as a function of levels of extended contact). These analyses suggested that in two cases (for closeness to ingroup friends and closeness to ingroup neighbours) closeness was negatively related to trust at low levels of extended contact. This, as well as the fact that Catholics and Protestants differed in terms of the rated closeness to ingroup neighbours and friends, suggests

that this measure may also have tapped into additional psychological processes. Possibly, people who reported greater closeness to ingroup neighbours and friends were generally more embedded in the ingroup (see Ashmore, Deaux, & McLaughlin-Volpe, 2004) and therefore, at low levels of connections to the outgroup (i.e., low levels of extended contact), less trusting.

However, as closeness was overall unrelated to trust, and extended contact predicted trust only at high levels of closeness for all four types of ingroup contacts, it is likely that these two processes (greater effectiveness of contact when experienced via close ingroup contacts and reduced trust for individuals who are highly embedded in the ingroup without having many ties to the outgroup) were operating in parallel. Given this limitation of the present measure, however, we strongly encourage future research to include more precise measures that assess closeness to a specific ingroup member, or to manipulate closeness directly.

Practical Implications

Notwithstanding these limitations, and the relatively small effect of extended contact over and above direct contact, we believe that there are potential practical implications of the present findings. Extended contact has recently been used as part of interventions aimed at improving outgroup attitudes (Cameron & Rutland, 2006; Cameron et al., 2006; Liebkind & McAlister, 1999), often in schools and with younger students. Such interventions could, in addition to introducing extended contact (e.g., through a story or a model), manipulate closeness to the ingroup model who is shown to have outgroup contact, with the aim of increasing the effectiveness of the intervention. Closeness could, for example, be manipulated through interaction tasks designed to create intimacy (using self-disclosure and role playing; e.g., Melinat, 1991, cited in Aron et al., 1992).

An additional issue to consider concerns the generalizability of our findings to other intergroup contexts. Northern Ireland is no longer a society where people are in fear of their lives because direct violence has ended for the majority of the people. Nonetheless, the conflict lives on in more subtle ways and levels of segregation are still high. In this respect Northern Ireland is similar to many post-conflict and post-accord societies around the world. As previous research has shown that extended contact can be particularly effective in contexts where groups live segregated lives and opportunities for contact are limited (see Christ et al., in press), the findings reported in this paper seem of particular importance given that there is now a recognition that what is required if lasting peace is to be achieved is "the resolution or transformation of relationships between individuals and groups" (Lederach, 2002).

Conclusion

To conclude, research is accumulating that the relatively new idea of extended contact has a unique contribution to make to the reduction of prejudice, and it appears to be an especially important form of contact for societies as strictly segregated as the one we studied, Northern Ireland (see Christ et al., in press). Learning that another ingroup member has contact with an outgroup member can provide a model for one's own direct contact in the future, and can help to shape less sectarian and more cosmopolitan ingroup norms (cf. Pettigrew, 1997). Our research has made two novel contributions, by showing that the impact of extended contact is typically greater when one's relationship to the fellow ingroup member is more rather than less intimate, as one would expect; but also that a range of relationships, from less to more intimate, can all have a significant impact when they are felt to be subjectively 'close'. Because our results were obtained when direct contact was controlled, we have demonstrated that extended contact is a

complement to direct contact; but in many of the world's more segregated cities and communities it is far more than that – it is the only viable form of contact.

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Footnotes

(1) Although the focus of this survey was on intergroup reconciliation and outgroup trust was therefore one of main themes investigated in this study, the survey also included simple measures of attitude. In an additional set of analyses we also examined the relation of extended contact with ingroup bias (affect towards the ingroup community minus affect towards the outgroup community, as measured by two feeling thermometers). Ingroup bias was overall unrelated to extended contact via work colleagues and neighbours, but was significantly negatively related to extended contact via family and friends. This is generally consistent with our hypothesis that extended contact via more intimate ingroup contacts is more effective. Nonetheless, when ingroup bias was regressed on all types of extended contact and the control variables simultaneously, none of the extended contact variables significantly predicted this variable. Moreover, the predicted interaction between closeness to ingroup contacts and extended contact was only significant for extended contact via friends. It is possible that these rather mixed findings for ingroup bias are due to the somewhat limited nature of the measure used. Note that all findings reported for outgroup trust remained significant when ingroup bias was controlled for in the analyses. Specific results of these additional analyses can be requested by contacting the corresponding author.

(2) Note that a similar pattern of results emerged for an additional relevant variable assessed in this research: intergroup anxiety. Specifically, anxiety was negatively predicted by extended contact via work colleagues, friends, and family and the relations between all four types of extended contact were moderated by closeness, such that extended contact was more strongly related to anxiety when ingroup contacts were high (as opposed to

low) in closeness. While these findings for intergroup anxiety were generally in line with expectations, anxiety was strongly correlated with outgroup trust ($r = -.52$, $p < .001$), and including trust as a control variable in the analyses rendered many of these effects nonsignificant. Our findings for outgroup trust, however, remained significant while controlling for intergroup anxiety. These results suggest that our findings for anxiety were due to its shared variance with trust. Although outgroup trust and intergroup anxiety are conceptually and empirically distinct, it is not surprising that they share a substantial amount of variance. Lack of trust is likely to go hand in hand with heightened anxiety, and increased trust would be expected to go along with reductions in anxiety. That the relations between extended contact and trust were stronger than those between extended contact and anxiety could be due to the greater specificity of the trust measure, but might also be due to the fact that extended contact tends to impact more on cognitively- as opposed to affectively-based prejudice (Paolini et al., 2007). Thus, trust, a more cognitive variable, is likely to be a more direct consequence of extended contact. Greater outgroup trust could then result in reduced intergroup anxiety. In other words, the relation between extended contact and anxiety might at least in part be mediated by greater trust. Specific results of these analyses can be requested by contacting the corresponding author.

Table 1

Descriptives and Zero-order Intercorrelations of Direct Contact, Types of Extended Contact, Closeness, and Outgroup Trust

	M	*SD*	Scale	2	3	4	5	6	7	8	9	10
1. Direct contact	2.34	.94	1-6	.28***	.22***	.37***	.41***	.00	.07	-.01	-.01	.31***
2. Extended contact via neighbours	2.61	1.04	1-6	1	.59***	.70***	.56***	.01	.05	.05	-.00	.37***
3. Extended contact via work colleagues	2.48	.90	1-6		1	.72***	.53***	.06	.14**	.07	.06	.38***
4. Extended contact via friends	2.70	1.00	1-6			1	.75***	.03	.11*	.07	.04	.49***
5. Extended contact via family	2.73	1.08	1-6				1	-.01	-.04	-.00	.03	.47***
6. Closeness neighbours	2.92	1.04	1-5					1	.62***	.49***	.23***	.03
7. Closeness work colleagues	3.12	.96	1-5						1	.55***	.26***	.09
8. Closeness friends	4.11	.85	1-5							1	.45***	-.02
9. Closeness family	4.73	.62	1-5								1	.06
10. Outgroup trust	3.76	1.04	1-5									1

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 2

Results of Analyses Regressing Outgroup Trust on Type of Extended Contact while Controlling for Direct Contact and All Other Types of Extended Contact (*Standardized Beta Coefficients)*

		Outgroup trust
Extended contact via **neighbours**	*Full measure*	.03
	2-item measure	.09
Extended contact via **work colleagues**	*Full measure*	.07
	2-item measure	.09
Extended contact via **friends**	*Full measure*	.25**
	2-item measure	.17*
Extended contact via **family**	*Full measure*	.20**
	2-item measure	.23***

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 3

Interaction Terms and Simple Slopes from Regression Analyses Testing for Moderation by Closeness to Ingroup Contacts

		Outgroup trust
Neighbours	*Interaction B (SE)*	.13 (.04)***
	Low Closeness β	-.08
	High Closeness β	.19**
Work colleagues	*Interaction B (SE)*	.14 (.05)**
	Low Closeness β	-.07
	High Closeness β	.16*
Friends	*Interaction B (SE)*	.15 (.06)**
	Low Closeness β	.13
	High Closeness β	.38***
Family	*Interaction B (SE)*	.15 (.06)*
	Low Closeness β	.11
	High Closeness β	.31***

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Figure Captions

Figure 1. Simple slopes of outgroup trust regressed on extended contact via neighbours for low, medium, and high levels of closeness to neighbours.

Figure 2. Simple slopes of outgroup trust regressed on extended contact via work colleagues for low, medium, and high levels of closeness to work colleagues.

Figure 3. Simple slopes of outgroup trust regressed on extended contact via friends for low, medium, and high levels of closeness to friends.

Figure 4. Simple slopes of outgroup trust regressed on extended contact via family members for low, medium, and high levels of closeness to family members.

Figure 1

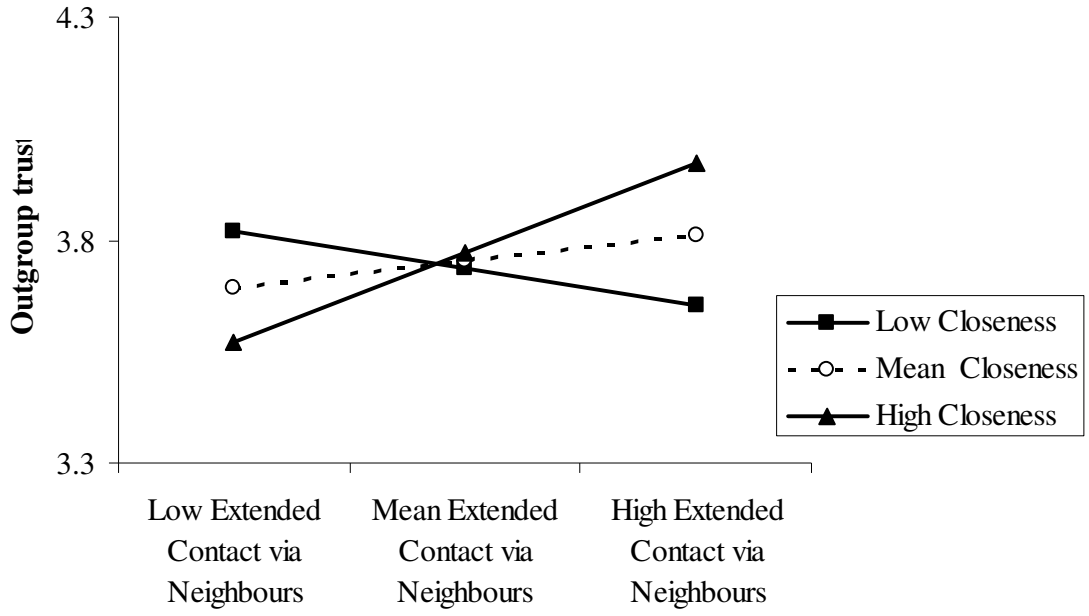

Figure 2

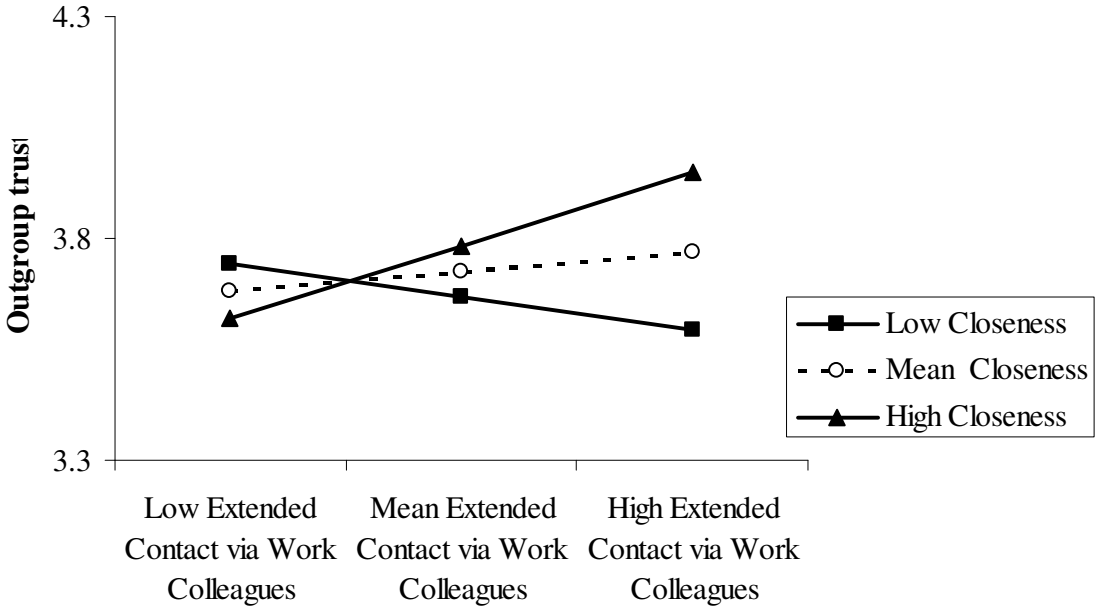

Figure 3

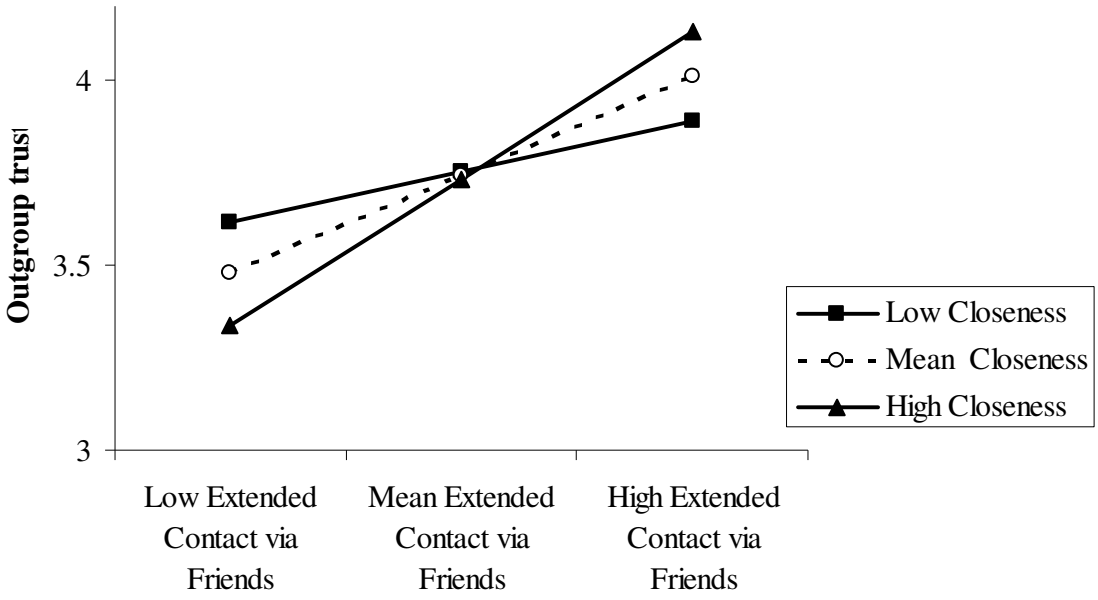

Figure 4